State of Ohio Environmental Protection Agency

Southwest District Office

401 East Fifth Street
Dayton, Ohio 45402-2911

TELE: (937) 285-6357 FAX: (937) 285-6404

Bob Taft, Governor
Maureen O'Connor, Lt. Governor
Christopher Jones, Director

August 16, 2002

Mr. Johnny Reising
U.S. Department of Energy, Fernald Area Office
P.O. Box 538705
Cincinnati, OH 45253-8705

Re: *COMMENTS - Silo 3 Project - Remedial Design Package*

Dear Mr. Reising:

Ohio EPA has reviewed DOE's submittal, "Silo 3 Project - Remedial Design Package received on May 15, 2002. Attached are our comments on the document.

If you have any questions, please contact me at (937) 285-6466.

Sincerely,

Thomas A. Schneider
Fernald Project Manager
Office of Federal Facilities Oversight

cc: Jim Saric, U.S. EPA
Terry Hagen, FDF
Mark Shupe, HSI GeoTrans
Michelle Cullerton, Tetra Tech EM Inc.
Ruth Vandergrift, ODH

Q:\ou4\Silo3\silo3rd52002.wpd

OHIO EPA COMMENTS:
SILO 3 PROJECT - REMEDIAL DESIGN PACKAGE
40430-RDP-0001, Revision 0 - May 2002

General Comments:

1. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Pg #: Line #: Code: C
Original Comment #:
Comment: Earlier discussions with FEMP lead us to believe that pneumatic removal was going to be used primarily to allow access for use of the mechanical excavation. This RD reflects that removal will primarily be pneumatic with use of the mechanical excavator used to assist with pneumatic removal. Please clarify the process.
Response:
Action:

2. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Pg #: Line #: Code: C
Original Comment #:
Comment: The design states that pneumatics may be added to the excavator. The design does not show this capability nor does the design adequately address the mechanical excavator.
Response:
Action:

3. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Pg #: Line #: Code: C
Original Comment #:
Comment: The design does not provide sufficient detail for this project. The complexity of the design warrants a much more detailed design. In addition, detailed information is needed regarding disposal options and locations, as well as equipment and techniques that will be used to empty the silo contents.
Response:
Action:

4. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Pg #: Line #: Code: C
Original Comment #:
Comment: The ventilation system that is being considered for the excavator room should mirror the pugmill ventilation system being utilized by the WPRAP project.
Response:
Action:

5. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Pg #: Line #: na Code: C
Original Comment #:
Comment: More detail is needed regarding the type of excavation equipment to be used to remove the compacted silo contents after the opening has been created. During preliminary discussions, several pieces of equipment were mentioned. Also, more detail is needed on how this equipment will place silo 3 material onto the conveyer.
Response:
Action:

6. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: Pg #: Line #: na Code: C
Original Comment #:
Comment: Please provide information regarding how often the HEPA filters will have to be changed and the anticipated secondary waste volume resulting from the filters.
Response:
Action:

Introduction:

7. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2.1 Pg #: 2 Line #: na Code: C
Original Comment #:
Comment: The last paragraph states that the physical characteristics are "assumed". A lot of studies including the RI/FS have been performed on silo 3 materials. The document should state the these studies have been performed and that is what the physical characteristics are based on.
Response:
Action:

8. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 3.0 Pg #: 3 Line #: Code: C
Original Comment #:
Comment: The resolution of the issues concerning whether treatment to meet disposal WAC is necessary will prevent the approval of this design. Also, there is not (at this time) a PCDF to accept non-treated silo 3 material.
Response:
Action:

Process Description:

9. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2.0 Pg #: 2-1 Line #: Code: C
Original Comment #:
Comment: The primary method for removal is this design is pneumatic. Previous discussions between Ohio EPA and FEMP had led us to believe that removal would primarily be accomplished via mechanical methods.
Response:
Action:

10. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 3.0 Pg #: General Line #: Code: C
Original Comment #:
Comment: It is unclear which operations in this section are manual and which are automated. Clearly identify within each operation description whether it is automated or manual.
Response:
Action:

11. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.4.5 Pg #: 4-5 Line #: Code: C
Original Comment #:
Comment: State in this section that the isokinetic sampler is sampler is compliant with 40 CFR 61 Subpart H, as well as, Ohio BAT requirements.
Response:
Action:

12. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.4.5 Pg #: 4-5 Line #: Code: C
Original Comment #:
Comment: Specify which isotopes of radon will be monitored in the stack emissions. Radon-220 concentrations could significantly impact work zones etc.
Response:
Action:

13. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.4.5 Pg #: 4-5 Line #: Code: C
Original Comment #:
Comment: Will the CEM be equipped with α/β alarm?
Response:

Action:

14. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 5.1.1.2 Pg #: 5-2 Line #: Code: C
Original Comment #:
Comment: What contingencies are incorporated in the design to address gross contamination of the silo enclosure and subsequent release to atmosphere/general area. Due to the possibility of contamination and release of radon through the silo opening, OEPA feels that air within the silo enclosure should be routed through HEPA filters and carbon beds before being released into the atmosphere.
Response:
Action:

15. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 5.1.1.3 Pg #: 5-2 Line #: Code: C
Original Comment #:
Comment: Again, there does not appear to be any contingencies for the accident scenario where there is a release of silo 3 material into this area (cargo container bay).
Response:
Action:

16. Commenting Organization: Ohio EPA Commentor: DSW
Section #: 5.4 Pg #: 5-5 Line #: Code: C
Original Comment #:
Comment: This section states that supply water for system 50 passes through BFP and supply water for system 51 does not. Drawing 94X-3900-F-1430 shows each branch passing through its respective BFP. Please resolve this discrepancy. As the branch for system 51 will include utility hose connections for both the Process Building and Excavator Service Room, it is recommended that this branch also pass through BFP.
Response:
Action:

17. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 5.5.2 Pg #: 5-6 Line #: Code: C
Original Comment #:
Comment: Does the silo 3 material harden after getting wet? If this is true, what contingencies are in the design to address plugging of the sump lines, etc.
Response:
Action:

Access and Retrieval Strategy:

18. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 1.4 Pg #: 1-4 Line #: Code: C
Original Comment #:
Comment: The text states that an engineering evaluation is under way to consider raising the load limitations. If the engineering evaluation fails to raise the load limitations, what aspects of the design will need to be changed? This evaluation should have been performed prior to the design.
Response:
Action:

19. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 1.4 Pg #: 1-5 Line #: Code: C
Original Comment #:
Comment: The last paragraph states that all loads are to be evaluated by engineering before performing activities on the silo dome. The engineering evaluation should be performed as part of this design.
Response:
Action:

20. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2.0 Pg #: 2-1 Line #: Code: C
Original Comment #:
Comment: ALARA principles should be added to this paragraph.
Response:
Action:

21. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 3.2 Pg #: 3-1 Line #: Code: C
Original Comment #:
Comment: What percentage of the airborne silo 3 material will drop out of the Pneumatic Retrieval Collector? , i.e. what is the efficiency of the Pneumatic Retrieval Collector. How will access material be removed from the air stream?
Response:
Action:

22. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.1.2 Pg #: 4-2 Line #: na Code: C
Original Comment #:
Comment: A more detailed drawing of the retrieval bin is needed. The drawing should

include what equipment will be at and below grade, where the grate will be located and the location of the portable waste bins in the excavator room.
Response:
Action:

23. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.2 Pg #: 4-2 Line #: Code: C
Original Comment #:
Comment: The design inadequately describes the mechanical retrieval system operation. The design provides insufficient information on the excavator.
Response:
Action:

24. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 5.2.2 Pg #: 5-1 Line #: Code: C
Original Comment #:
Comment: The text states that drainage features will be removed after cutting operations are complete. As described in the text, these drainage features will need to be available throughout most of the life of the project to support the multiple steps in cutting the silo wall opening.
Response:
Action:

25. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 5.3 Pg #: 5-3 Line #: Code: C
Original Comment #:
Comment: Misting should also be used to limit the spread of contamination.
Response:
Action:

26. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 5.3 Pg #: 5-3 Line #: Code: C
Original Comment #:
Comment: A system similar to the pugmill ventilation system at WPRAP should also be considered.
Response:
Action:

Process Control Summary:

27. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 3.1.3 Pg #: 8 Line #: Code: C
Original Comment #:
Comment: PDIT-DCL-10-5004 HEPA Filter Diff Pressure as well as all HEPA filters should include a low pressure alarm, indicating a breech in the filter.
Response:
Action:

28. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 3.3.3 Pg #: Line #: Code: C
Original Comment #:
Comment: The design does not mention alarms for the CEM. Also, the TBD set points need to have a range or actual numbers incorporated into the table.
Response:
Action:

29. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 3.4.2 Pg #: 15 Line #: na Code: C
Original Comment #:
Comment: What strategy will be used if a bag does not pass examination or swipe tests?
Response:
Action:

30. Commenting Organization: Ohio EPA Commentor: DSW
Section #: 3.7.2 Pg #: 16 Line #: na Code: C
Original Comment #:
Comment: This section states that ?Sump pumps in the Excavator Room, the Excavator Service Room, and the Wastewater Tank Area will each start automatically in response to high water level actuating switches in the sumps. A manual selector switch will be provided at the Wastewater Tank Area sump pumps to allow manually selecting which of the two pumps will run.? First, there are three sumps referred to above, rather than two. Also, each has its own activating switch to turn on at high levels automatically. Does the above statement mean that at any one time, only one of the automatic actuating switches will be live, and the other two not able to turn on automatically?
Response:
Action:

31. Commenting Organization: Ohio EPA Commentor: DSW
Section #: 3.7.2 Pg #: 17 Line #: na Code: C
Original Comment #:
Comment: This states that the contents of the wastewater tanks will be analyzed to assure suitability for processing by the AWWT. What is the disposition of the tank contents if they are not found suitable for processing by the AWWT?
Response:
Action:

Sampling and Analysis Plan:

32. Commenting Organization: Ohio EPA Commentor: DSW
Section #: General Pg #: Line #: Code: C
Original Comment #:
Comment: Should the sampling and analysis of the wastewater tank as described in Process Control Summary, Section 3.7.2, Contol Philosophy, page 17 be included in this section?
Response:
Action:

33. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: General Pg #: Line #: Code: C
Original Comment #:
Comment: If treatment is necessary, how will the design need to be altered to accommodate WAC sampling?
Response:
Action:

Transportation & Disposal Plan:

34. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: General Pg #: Line #: Code: C
Original Comment #:
Comment: This section inadequately describes the truck option to Envirocare. Merely stating that you haven't done it and will address the issue if it arises is insufficient. The general arrangement drawings do not account for staging of trucks, loading of trucks, or other possible facilities that would be necessary to ship by truck.
Response:
Action:

35. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 1.2 Pg #: 1-2 Line #: Code: C
Original Comment #:
Comment: This paragraph should be changed, removing reference to the ROD. We don't know which version of the ROD is being referred to.
Response:
Action:

36. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2.3.2.1 Pg #: 2-2 Line #: Code: C
Original Comment #:
Comment: Routes for transport of silo 3 material to Envirocare via truck need to be specified.
Response:
Action:

37. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2.3.3 Pg #: 2-4 Line #: Code: C
Original Comment #:
Comment: An updated transportation risk assessment for intermodal transportation of silo 3 material to NTS should have been done prior to the design to ensure that this is a viable option.
Response:
Action:

38. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2.3.6.1 Pg #: 2-6 Line #: Code: C
Original Comment #:
Comment: The minor revisions to WPRAP procedures to include silo 3 shipments should have been completed and included in the design.
Response:
Action:

39. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 3.2 Pg #: 3-1 Line #: Code: C
Original Comment #:
Comment: Insufficient detail is provided for the staging of filled silo 3 material containers.
Response:
Action:

40. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 3.3 Pg #: 3-3 Line #: Code: C
Original Comment #:
Comment: What is the process for materials that do not meet WAC?
Response:
Action:

41. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 6.3.1.2 Pg #: 6-3 Line #: Code: C
Original Comment #:
Comment: One would assume that the silo 3 waste profile would have already been submitted to Envirocare and NTS for review. This would seem to accelerate the approval process.
Response:
Action:

Environmental Control Plan:

42. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2.0 Pg #: 2 Line #: Code: C
Original Comment #:
Comment: What modeled radon concentration will serve as an emission limit? And what is the basis?
Response:
Action:

43. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 2.1.1 Pg #: 3 Line #: Code: C
Original Comment #:
Comment: What is the estimated impact to the public from the initial uncontrolled release of radon from the silo 3. How and when will this information be transmitted to the public?
Response:
Action:

44. Commenting Organization: Ohio EPA Commentor: DSW
Section #: 3.2.4 Pg #: 9 Line #: Code: C
Original Comment #:
Comment: This is a good description of the proper application of silt fencing. Note, however, that sediment accumulated should be removed when two thirds of the height of the silt fence are obstructed by accumulated sediment. Most sediment fence is

marked at the point with a clearly visible line.
Response:
Action:

45. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.0 Pg #: 11 Line #: Code: C
Original Comment #:
Comment: The opening paragraph should also include OAC 3745-17-12.
Response:
Action:

46. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 4.3 Pg #:12 Line #: Code: C
Original Comment #:
Comment: BAT control measures need to be implemented *prior* to exceeding the visible limit.
Response:
Action:

47. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 5.4 Pg #: 17 Line #: Code: C
Original Comment #:
Comment: If excavation soils cannot be immediately placed in the OSDF where will they be stored?
Response:
Action:

ARARs/TBC Requirements

48. Commenting Organization: Ohio EPA Commentor: DSW
Section #: Endangered Species Protection Pg #: 4 Line #: Code: C
Original Comment #:
Comment: The Indiana Bat has been sighted (captured) on site, in the Paddys Run riparian corridor, not far from the silos area.
Response:
Action:

Stack Release Considerations:

49. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: General Pg #: Line #: Code: C
Original Comment #:
Comment: Generate a(n) isopleth(s) for a graphical representation of the data contained in this section.
Response:
Action:

Environmental Monitoring Plan:

50. Commenting Organization: Ohio EPA Commentor: DSW
Section #: General Pg #: Line #: Code: C
Original Comment #:
Comment:There is no provision for monitoring of surface water. The IEMP samples SWD3 and STORM4005 infrequently. The silos project should sample from these points after waste retrieval begins during post storm events until a satisfactory track record can be developed.
Response:
Action:

51. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 3.1.1 Pg #:2 of 6 Line #: Code: E
Original Comment #:
Comment: Remove the word "Stabilization" from the title of this section.
Response:
Action:

52. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: 3.1.1 Pg #:2 of 6 Line #: Code: C
Original Comment #:
Comment: How will compliance with the 0.5 pCi/L above background limit demonstrated?
Response:
Action:

53. Commenting Organization: Ohio EPA Commentor: DSW
Section #: 3.3 Pg #:5 of 6 Line #: Code: C
Original Comment #:
Comment: See comment above regarding disposition of wastewater not suitable for discharge to the AWWT.
Response:
Action:

Gross Decontamination Plan:

54. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: na Pg #: 1 of 1 Line #: Code: C
Original Comment #:
Comment: Detailed plans should be developed well prior to the end of bulk pick up.
Response:
Action:

Civil Drawings:

55. Commenting Organization: Ohio EPA Commentor: OFFO
Section #: General Pg #: Line #: Code: C
Original Comment #:
Comment: The drawings need to indicate what the layout of stored containers will be in the ISA.
Response:
Action: